IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended). A magneto-optical device comprising:

a waveguide structure that includes at least two cladding regions and core region, wherein said cladding regions and core region comprise semiconductor alloy materials, either said at least two cladding regions or said core region is doped with ferromagnetic materials that are coupled to free carriers in said waveguide structure so as to increase the ~~magneto-optical activity~~faraday rotation of said device.

2. (Previously Presented). The magneto-optical device of claim 1, wherein said ferromagnetic materials comprises Fe, Ni, Co or fine particles of Fe.

3. (Original). The magneto-optical device of claim 1, wherein said at least one cladding region comprises InP.

4. Canceled.

5. (Original). The magneto-optical device of claim 1, wherein said core region comprises InGaAsP.

6. (Original). The magneto-optical device of claim 1, wherein said core region comprises InGaAlAs.

7. (Currently Amended). A method of forming a magneto-optical device comprising:

forming a waveguide structure that includes at least two cladding regions and core region, wherein said cladding regions and core region comprise semiconductor alloy materials; and

doping either said at least two cladding regions or said core region with ferromagnetic materials that are coupled to free carriers in said waveguide structure so as to increase the faraday rotation of said device.

8. (Currently Amended). The method of claim 7, wherein said ferromagnetic materials comprises Fe, Ni, Co or fine particles of Fe.

9. (Original). The method of claim 7, wherein said at least one cladding region comprises InP.

10. Canceled.

11. (Original). The method of claim 7, wherein said core region comprises InGaAsP.

12. (Original). The method of claim 7, wherein said core region comprises InGaAlAs.